FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis for TCLP Metals By EPA Method 200.8 and 40 CFR PART 261

Client ID:	M03047	Client:	Alaskan Copper Works
Date Received:	09/05/08	Project:	PO M03047, F&BI 809042
Date Extracted:	09/24/08	Lab ID:	809042-01
Date Analyzed:	09/25/08	Data File:	809042-01.012
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/L (ppm)	Operator:	hr

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Germanium	93	60	125
Holmium	97	60	125

Analyte:	Concentration mg/L (ppm)	TCLP Limit
Chromium	<1	5.0
Lead	<1	5.0

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis for TCLP Metals By EPA Method 200.8 and 40 CFR PART 261

Client ID:	Method Blank	Client:	Alaskan Copper Works
Date Received:	Not Applicable	Project:	PO M03047, F&BI 809042
Date Extracted:	09/24/08	Lab ID:	I8-364 mb
Date Analyzed:	09/25/08	Data File:	I8-364 mb.010
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/L (ppm)	Operator:	hr

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Germanium	98	60	125
Holmium	102	60	125

Analyte:	Concentration mg/L (ppm)	TCLP Limit
Chromium	<1	5.0
Lead	<1	5.0

Date of Report: 09/30/08
Date Received: 09/05/08
Project: PO M03047, F&BI 809042

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES FOR TCLP METALS USING EPA METHOD 200.8 AND 40 CFR PART 261

Laboratory Code: 809042-01 (Duplicate)

Analyte	Reporting Units	Sample Result	Duplicate Result	Relative Percent Difference	Acceptance Criteria
Chromium	mg/L (ppm)	<1	<1	nm	0-20
Lead	mg/L (ppm)	<1	<1	nm	0-20

Laboratory Code: 809042-01 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Acceptance Criteria
Chromium	mg/L (ppm)	2.0	<1	103	50-150
Lead	mg/L (ppm)	1.0	<1	101	50-150

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Chromium	mg/L (ppm)	2.0	103	70-130
Lead	mg/L (ppm)	1.0	99	70-130

Data Qualifiers & Definitions

a - The analyte was detected at a level less than five times the reporting limit. The RPD results may not provide reliable information on the variability of the analysis.

A1 – More than one compound of similar molecule structure was identified with equal probablility.

b - The analyte was spiked at a level that was less than five times that present in the sample. Matrix spike recoveries may not be meaningful.

ca - The calibration results for this range fell outside of acceptance criteria. The value reported is an estimate.

c - The presence of the analyte indicated may be due to carryover from previous sample injections.

d - The sample was diluted. Detection limits may be raised due to dilution.

ds - The sample was diluted. Detection limits are raised due to dilution and surrogate recoveries may not be meaningful.

dv - Insufficient sample was available to achieve normal reporting limits and limits are raised accordingly.

fb - The analyte indicated was found in the method blank. The result should be considered an estimate.

fc – The compound is a common laboratory and field contaminant.

hr - The sample and duplicate were reextracted and reanalyzed. RPD results were still outside of control limits. The variability is attributed to sample inhomogeneity.

ht - The sample was extracted outside of holding time. Results should be considered estimates.

ip - Recovery fell outside of normal control limits. Compounds in the sample matrix interfered with the quantitation of the analyte.

j – The result is below normal reporting limits. The value reported is an estimate.

J - The internal standard associated with the analyte is out of control limits. The reported concentration is an estimate.

jl - The analyte result in the laboratory control sample is out of control limits. The reported concentration should be considered an estimate.

jr - The rpd result in laboratory control sample associated with the analyte is out of control limits. The reported concentration should be considered an estimate.

js - The surrogate associated with the analyte is out of control limits. The reported concentration should be considered an estimate.

lc - The presence of the compound indicated is likely due to laboratory contamination.

L - The reported concentration was generated from a library search.

nm - The analyte was not detected in one or more of the duplicate analyses. Therefore, calculation of the RPD is not applicable.

pc – The sample was received in a container not approved by the method. The value reported should be considered an estimate.

pr – The sample was received with incorrect preservation. The value reported should be considered an estimate.

ve - The value reported exceeded the calibration range established for the analyte. The reported concentration should be considered an estimate.

vo - The value reported fell outside the control limits established for this analyte.

x - The pattern of peaks present is not indicative of diesel.

y - The pattern of peaks present is not indicative of motor oil.

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ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.
Charlene Morrow, M.S.
Yelena Aravkina, M.S.
Bradley T. Benson, B.S.
Kurt Johnson, B.S.

3012 16th Avenue West
Seattle, WA 98119-2029
TEL: (206) 285-8282
FAX: (206) 283-5044
e-mail: fbi@isomedia.com

September 30, 2008

DUPLICATE

INVOICE #08ACU0930-2

Accounts Payable
Alaskan Copper Works
628 South Hanford
Seattle, WA 98134

RE: Project PO M03047, F&BI 809042 - Results of testing requested by Gerry Thompson for material submitted on September 5, 2008.

1 sample analyzed for TCLP Lead and Chromium by Method 1311/200.8 @ $110 per sample	$ 110.00
Rush Charges (3 day) 50% of $110.00	55.00
Amount Due	$ 165.00

FEDERAL TAX ID #(b) (6)

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Amount Due	$ 165.00

FEDERAL TAX ID # (b) (6)

809042

SAMPLE CHAIN OF CUSTODY

ME 09/05/08 AIY

Send Report To Gerard Thompson
Company ALASKAN Copper Work
Address 628 S. Hanford St
City, State, ZIP Seattle WA 98134
Phone # 206-571-6033 Fax # 206-382-4302

SAMPLERS (signature)
PROJECT NAME/NO. Metals
PO # M120477 M03047 PVGT
REMARKS Call with verbals

Page # ____ of ____

TURNAROUND TIME
☐ Standard (2 Weeks)
☒ RUSH ASAP
Rush charges authorized by:

SAMPLE DISPOSAL
☐ Dispose after 30 days
☐ Return samples
☐ Will call with instructions

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of containers	TPH-Diesel	TPH-Gasoline	BTEX by 8021B	VOCs by 8260	SVOCs by 8270	HFS	TRCRA 8	TCLP Pb+Cr	72hr.				Notes
M120477	01	9/5/08	12:02pm	Soil	1							-1	✓					✓-DEBT
03047 PVGT																		a/24/08 MG

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:	Gerard Thompson	AEW	9/5/08	1:45pm
Received by:	Rhain Thain	FEBI	9/5/08	1:49
Relinquished by:				
Received by:				

Samples received at 24 °C

Friedman & Bruya, Inc.
3012 16th Avenue West
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Fax (206) 283-5044

FORMS\COC\COC.DOC

FRIEDMAN & BRUYA, INC.

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September 30, 2008

Gerry Thompson, Project Manager
Alaskan Copper Works
628 South Hanford
Seattle, WA 98134

Dear Mr. Thompson:

Included are the additional results from the testing of material submitted on September 5, 2008 from the Metro Self Monitor, PO M03047, F&BI 809042 project. There are 4 pages included in this report.

We appreciate this opportunity to be of service to you and hope you will call if you should have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.

Michael Erdahl
Project Manager

Enclosures
ACU0930R.DOC